

AICA

CERARL
TOUGHTOP



2022-2023

TERSEDIA DI :  **QHOMEMART**

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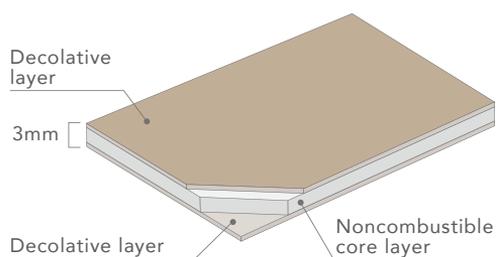


Over the years, nature gives us comfort through visuals and touch.

Embodying expressions of nature, our Cerarl & ToughTop products give refined character to spaces.

WHAT IS CERARL

COMPOSITION OF CERARL



CERARL noncombustible decorative panels are made with melamine resin impregnated decorative layers and a specialized noncombustible core, formed by a high-temperature, high-pressure press.

Offering superb rigidity and strength, they're favoured in public buildings as well as in the house.

Standard Size = 3'x 8' <-> 935 x 2455 mm (+2/-2)



WATERPROOF

NONCOMBUSTIBLE



Tersedia di :

 **QHOME MART**



Inorganic antibacterial agent
Integrated
Surface Layer
ID0123211X0002X

The SIAA brand mark is borne on products that are under quality control and information disclosure by the guidelines of the Society of Industrial Technology for Antimicrobial Articles based on the results evaluated by ISO22196 method.

BENEFITS



Durable and impact resistant

Rigid and strong melamine resin protects these panels from cracking, shattering, and splintering.



Easy to maintain

Resistant to set-in stains, and easy to wipe clean.



Heat and humidity-resistant

Won't discolor if splashed with hot water. Not even cigarette stains stick!



Hygienic and sanitary

Maintains cleanliness by inhibiting growth of bacteria. Also suitable for bath and toilet areas.



Simple installation

Easy to cut smoothly and cleanly with woodworking carbide blades.

Tersedia di :



Table of physical properties of AICA CERARL

Product name		Cerarl			
Test items		Test result	Standard	Test method	
Certified by the Minister of Land, Infrastructure, Transport and Tourism		NM-2183		Building Standard Law Article 2 Paragraph 9 Non-combustible material	
Thickness (mm)		3.0	3±0.3	JIS K 6902	Mean value of measurements of four points on the circumference obtained by a micrometer with 1/100 mm resolution.
Appearance		Free of any defect	Something without fault	JIS K 6902	Visually assess irregular color and irregular luster.
Bulk specific gravity		1.77		In-house Test	Measure mass in water and mass at the time of water absorption and compute based on a specified calculation formula.
Heat resistance		Class 5	Min. Class 5	JIS K 6902	Place a flat-bottomed pan containing 180° vegetable oil on the test specimen and let it stand for 20 minutes.
Hot water resistance		Class 5	Min. Class 5	JIS K 6902	Spill a small amount of boiling water on the test specimen, place a flat-bottomed pan containing boiling water on the test piece and let it stand for 20 minutes.
Wear resistance	Wear value (rotations)	643	Value abrasion 200 cycles or more	JIS K 6902	Examine wear conditions of color and pattern every 25 rotations by a Taber abraser with the load of each abrasive wheel adjusted to 5.20±0.2N. Endpoint: When the color of facial-powder paper first disappears for the plain color. When 50% of printed pattern disappear for patterned material.
Dimensional stability (high temperature)	Longitudinal direction (%)	0.22	0.7% or less	JIS K 6902	Find the rate of change at the time of contraction when dried at 70°C for 24 hours and at the time of expansion when letting it stand at 40°C 90% RH for 96 hours.
	Lateral direction (%)	0.24	1.2% or less		
Impact resistance (large ball)	Falling ball height (cm)	70	10 cm or more no crack	In-house Test	Fix a 230±5 mm test specimen to a support stand, allow a 325±5 g steel ball to fall, and check the surface for any sign of cracking.
	Cracking on the surface	None			
Contamination resistance		(Minor change) 14,15	No change or slight change of surface	In-house Test	Add the contaminated material stipulated under this table dropwise to the test specimen surface or allow it to adhere to the specimen surface, cover with a watch glass, and let it stand for 16 to 24 hours. Then wash with water/alcohol and check the surface for any sign of change.
Light resistance	4E (48 hrs)	1.5	ΔE = 3.0 or less	JIS K 6902	Expose the test specimen by UV carbon fade meter and express changes in color tone by Lab.
	Appearance after test	Class 3	Min. Class 3		
Pencil hardness		8H	8H or more	In-house Test	Under a 1000-g load, conduct a scratch hardness test using a pencil of each hardness. Visually confirm the appearance after the test.

* The data in the table are not guaranteed value but reference values.

(Contamination resistance Contaminated material)

1. Tea, 2. Coffee, 3. Milk, 4. 1% alcoholic iodine solution, 5. Vinegar, 6. 10% aqueous solution of citric acid, 7. Gasoline, 8. Acetone (for industrial use), 9. Olive oil, 10. 10% ammonia water, 11. Crayon (red, black, and blue), 12. Shoe cream (black), 13. Dyestuff (food dye red), 14. office ink, 15. 2% aqueous Mercurochrome solution, 16. 5% aqueous carbolic acid solution, 17. Aqueous acid sodium sulfite solution, 18. Soysauce

(Description on the class)

Heat resistance and hot water resistance

Class 5: No change; Class 4: Slight change in luster and/or color change as viewed at a specific angle.; Class 3: Moderate change in luster and/or color change; Class 2: Apparent change in luster and/or color change; Class 1: Damage and/or blister generated on the surface.

Light resistance

Class 5: No change in color or surface finish; Class 4: Slight change in color or surface finish at a specific angle and in a specific direction; Class 3: Moderate change in color or surface finish at all angles and in all directions; Class 2: Apparently identified at all angles and in all directions; Class 1: Blister and/or cracking on the surface.

*This table of physical properties of AICA CERARL is English translated version of the Japanese language original.

Certificate of Conformity

Cerarl is a product with its noncombustibility widely recognized internationally.



Certificated by The Minister of Land, Infrastructure and Transport of Japanese Government NM - 2183

China



Taiwan



*Class A fire rating under the ASTM E84 test is given to CERARL. All certificates are valid as of Apr., 2022.

Installation

Safety Precautions

Please observe the following points to use the product safely.

1. Put protective gloves on when carry / treat the product.
2. Wear protective goggles and a dust mask during work.
3. Please prevent a dust explosion when collect dust which made by processing.
4. As for the panel with adhesive, please do not let an adhesion side come in contact with skin.
5. Handling: avoid direct sunlight, avoid wettin, handle with care.

Emergency Care

- If dust adheres to your skin or it is involved in your eyes, nose or mouth, immediately wash it fully off with water. If you feel something strange in yourself, receive medical treatment immediately.
- On the occasion of fire, please extinguish a fire with water, fog, a bubble, and a chemical fire extinguishing agent.

Installation

CERARL non combustible & decorative panels are best applied on gypsum and direct on existing tile.



CERARL on gypsum



CERARL on tile

Accessories

CERARL Dedicated Adhesive

AICA Eco-Eco Bond Modified Silicone Resin SE-8

On flat surface construction : 1 tube/3' x 8' size (one piece)
 On shower tile construction : 4 tubes/ 3' x 8' size (one piece)
 Standard possible application amount: 16 m/tube



Double tape from third parties product

Double Coated Foam Tape

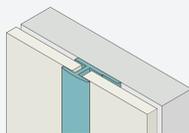
Recommended Specification
 Thickness : 1 mm
 Width : 20 mm



Recommended Accessories

**Joiner - "I" Joint
 Type H**

Thickness : 1 mm
 Width : 13 mm
 Length : 3.050 mm/piece



L : 3,050mm

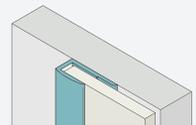
Available Color:

- Dark Brown
- Snow White
- Ivory
- Silver



**Joiner - Terminal Joint
 Type U**

Thickness : 1 mm
 Width : 13 mm
 Length : 3.050 mm/piece



L : 3,050mm

Available Color:

- Dark Brown
- Snow White
- Ivory
- Silver



Sealant for caulking from third parties product

Multi Purpose Silicone Sealant

Recommended Color: Beige | Ivory | Dark Brown



Construction Manual for CERARL



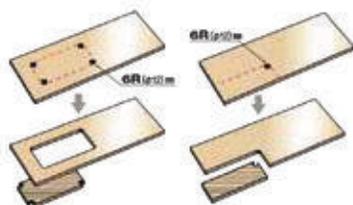
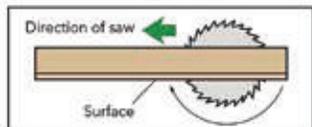
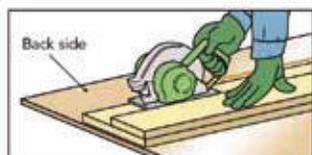
1 Foundation work



2 Layout

Position CERARL so that it does not overlap the foundation material joints.

3 Cutting and processing



Drilling for socket

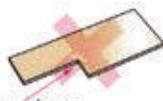
- ① Drill a hole in all four corners.
- ② Cut with small multi-tool or jigsaw.
- ③ Sand the cut surface smooth.

Notching

- ① Drill a hole in the corner.
- ② Cut with small multi-tool or jigsaw.
- ③ Sand the cut surface smooth.

Caution

When cutting at a sharp angle as shown at right, cracks may occur.



4 Sticking special temporary tacking tape



5 Applying special adhesive agent

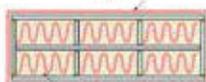


[Standard Application Pattern]

— Temporary tacking tape
- - - Adhesive

<Standard>

Apply lines of tacking tape at edges.



Apply wavy lines of adhesive around the center.

<Notching>

Apply lines of tacking tape at edges.



Apply wavy lines of adhesive around the center.

<Drilling for socket>

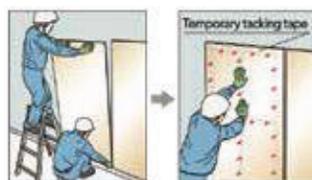
Apply lines of tacking tape at edges.



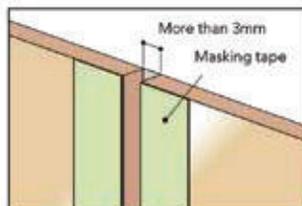
Detailed view of hole.

Apply wavy lines of adhesive around the center.

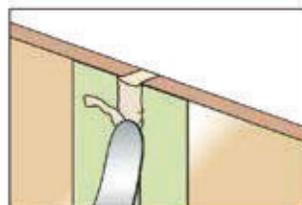
6 Pasting and crimping



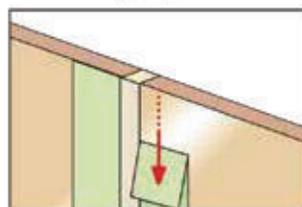
7 Sealing



Cover edges with masking tape and apply a bead of silicone the full length.



Smooth silicone and remove excess using a spatula.



Remove masking tape gently toward the inside.

8 Peeling curing film

Completion

Construction Manual for CERARL [ON TILE]



1 Surface preparation



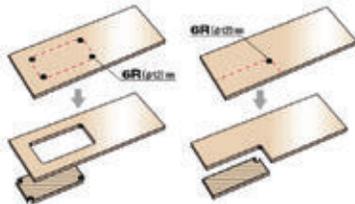
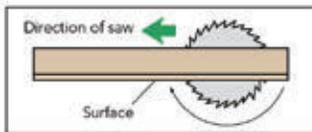
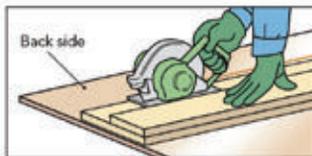
III When the foundation is convex
Measure gaps using a flat ruler.

III When the foundation is concave
Measure gaps by using a string stretched out.

2 Layout

Position CERARL so that it does not overlap the foundation material joints.

3 Cutting and processing



Drilling for socket

- ① Drill a hole in all four corners.
- ② Cut with small multi-tool or jigsaw.
- ③ Sand the cut surface smooth.

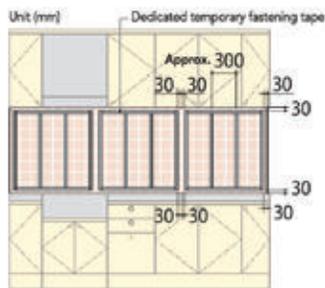
Notching

- ① Drill a hole in the corner.
- ② Cut with small multi-tool or jigsaw.
- ③ Sand the cut surface smooth.

Caution

When cutting at a sharp angle as shown at right, cracks may occur.

4 Adjustment of unevenness using temporary fastening tape

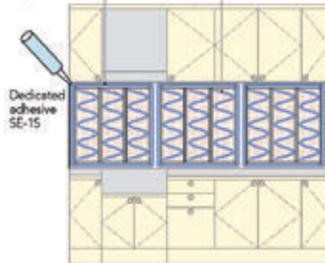


E.g. 4 mm of unevenness: 3 mm thickness + 1 mm thickness

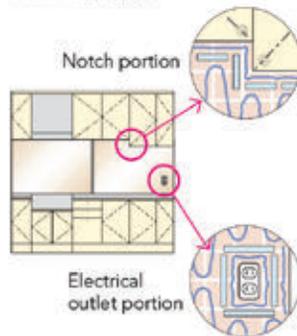
5 Applying special adhesive

Ensure that application to the edge portion takes place in a straight line

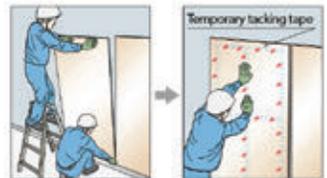
Ensure that application to the internal portion takes place in a wavelike fashion



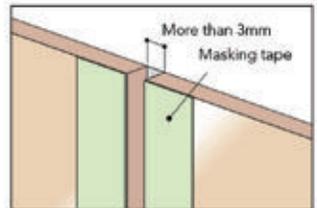
[Application Pattern for Corner Parts etc.]



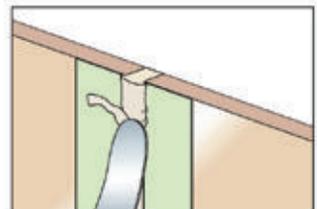
6 Pasting and crimping



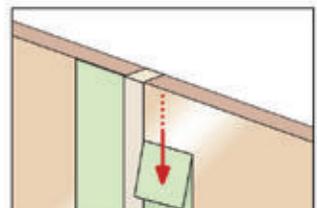
7 Sealing



Cover edges with masking tape and apply a bead of silicone the full length.



Smooth silicone and remove excess using a spatula.



Remove masking tape gently toward the inside.

8 Peeling curing film

Completion

Construction Manual for CERARL on Shower

Please read this installation manual before conducting installation.

*If the structural frame (of the building) is sensitive to outside air, condensation marks may occur at the adhesive locations. Dew condensation marks are removed through ventilation.

When applying the product on existing groundwork

Tile surfaces (only in cases when there is no floating or peeling present and when the unevenness is less than 5 mm [rough estimate]) (Checking method: Refer to **B** to the right and **C** below).

When applying the product on existing groundwork

*The installation method is the same for brand new bathrooms.

- Special hardwood plywood (t 12 mm or more) [not possible with soft wood plywood]
- Calcium silicate plates (t 8 mm or more; specific gravity of 1.0)
- Mortar surface (water content of 4.5% or less)

*Apply the dedicated primary to entire surface.

Unsuitable groundwork (some examples)

- ALC -concrete blocks - RC Surfaces -unit baths
- Water resistant Gypsum boards

*Installation over sheet waterproofing and liquid-applied membrane waterproofing. The product cannot be installed on groundwork characterized by a weak surfaces/ structural strength and weak water resistance. it also cannot be applied to groundwork wherein adhesives do not stick.

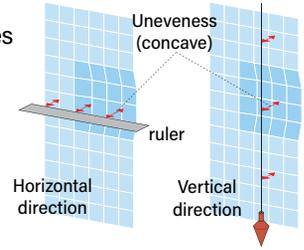
A Check the tile surfaces

Clean the tile surfaces thoroughly.

B Unevenness in the tile surfaces

As shown below, measure the horizontal and vertical unevenness of the wall surface using a straight ruler, a downward swing, a laser level, or another such tool.

*The maximum unevenness allowed in installation is less than 5 mm (rough estimation). Prepare groundwork if the thickness exceeds 5 mm.



How to check and handle the stay of groundwork



C Floating of surface tiles

Old tiled wall surfaces present a high risk of floating and peeling. As such, check for the floating of tiles by conducting a percussion test (which

involves hitting the tile surface with a hammer to make judgements concerning abnormal sounds based on the sounds produced) as shown on the left. The following methods are recommended in repairing floating or peeled off tiles.

Drill a hole in the centre of the tile to a depth of 30 mm using a concrete drill. thoroughly clean the inside of the hole in tile. Fill the hole with epoxy resin using a grease gun, starting from the deepest part of the hole. Fill until it reaches the same level as the tile surface. After the resin has hardened, perform a percussion test again to check the state of filling.

Filling of epoxy resin mortar

For relatively minor tile peeling, fill the peeling area with epoxy resin mortar that is used for filling and repairing.

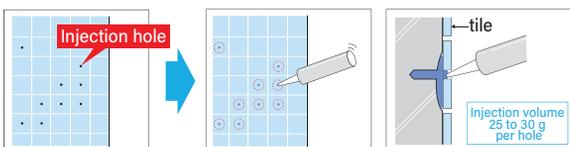
Filling mortar or puring mortar onto the whole surface

A wide range of applications are passable, from relatively minor tile peeling to the repair of hanging tiles. Please note that poor adhesion between the buildings structural frame (concrete/ Block) and the mortar may result in peeling.

adhesive strength: 1.0 N/mm² or more

Resin injection fixation by means of pinning

As shown in the figure below, inject epoxy resin or another such agent into the floating tile to prevent the floating part from peeling and falling off.



Groundwork preparation

To prepare the groundwork, conduct adjustments of any unevenness using mortar of good adhesive strength on tiles and can be thinly applied. Or, use a calcium silicate plate (specific gravity 1.0 and a thickness of 6 mm or more) or lauan plywood (of a thickness of 12 mm or more)

- Mortar: water content of 4.5% or less / adhesive strength of 1.0 N/mm² / Level trowel finish
- Calcium silicate board and special hardwood plywood: be sure to secure the screws to the building.
- Apply primer beforehand to the entire surface of the substrate material portion prepared with cast mortar, calcium silicate board and lauan plywood.

Safety measures

Perform the following when using a solvent-based primer or another such agent.

- (1) Exercise sufficient caution with respect to ventilation
- (2) Exercise sufficient caution with respect to fire and ventilation
- (3) Avoid contact with the skin. if necessary, also wear a gas mask designer for organic gas (or an air supply mask), protective gloves, protective glasses, an apron, and so on.

Construction Manual for CERARL on Shower

Processing Tools

Please use the following tools for processing and ensure that a new blade is used to avoid chipping.

- Cutting

Dustproof circular saw (chip saw, diamond saw)

Using cutting during installation

blade specifications consist of the "outer diameter", the "blade thickness" and the "number of blades". Ensure that the "outer diameter" and the "blade thickness" are suitable for your handy saw. Also ensure that the tool used has the highest "number of blades" as possible.

*use machining tools that are equipped with dust collectors.

- Drilling holes
Drill (when the diameter is 12 or less), a flexible drill (when the diameter is over 12), a hole saw, a jig saw.

CERARL	
Outer diameter	Number of blades
100 ϕ	60P
125 ϕ	80P
165 ϕ	72P

- Finishing
Sand paper, file

*if the structural frame (of the building) is sensitive to outside air, condensation mats may occur at the adhesive locations. Dew condensation marks are removed through ventilation.

Installation procedure



The following is the installation procedure for tile surfaces and mortar surfaces (less than 5 mm of unevenness). Refer to the section of the installation manual titled "For Shower Room Walls and Ceilings" for details. Prepare new groundwork using calcium silicate board or special hardwood plywood. Refer to the section of the installation manual titled "Smooth Groundwork for Shower Room Walls and Ceilings" if the unevenness is less than 1 mm.

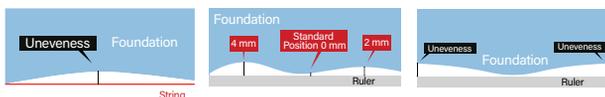
1 Groundwork treatment



-Clean the installation surface. First wash it using a cleaner and then wash it with water. After that, wipe it down with a dry cloth.

-Measure the unevenness of the tile surface by referring to the measurement method provided on the left in the figure shown below. Measure vertically, horizontally and diagonally.

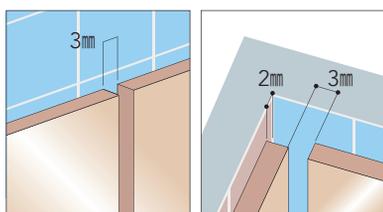
- When the groundwork is concave
Stretch out the string and measure the gaps.
- When the groundwork is convex
Use a horizontal ruler to measure the gaps.



2 Primer treatment

Apply primer beforehand to the entire surface of the substrate material portion prepared with cast mortar, plywood, and calcium silicate board.

3 Allocation

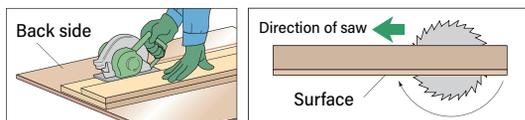


-when using a calcium silicate plate for the groundwork, make sure that the joints of the substrate material and the joints of the finishing material do not overlap.

-it is not possible to install the panels without leaving gaps between them. Ensure at least 3 mm of space for joints.

-Secure some clearance also when performing installation using joiners.

4 Cutting and processing



- Using the cutting board, make sure the cutting tool goes in from the **front surface** and out from the reverse surface. Protective film is attached to the surface.

- Be sure to use a blade with a diameter of 12 ϕ or more and make holes and cutouts going from the front surface to the corner.

Notches



- Drill holes in the four corners.
- Cut with a saw.
- Chamfer the cut face.

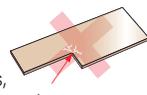
Drilling



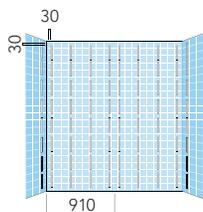
- Drill holes in the four corners.
- Cut with a saw.
- Chamfer the cut face.

Caution

Cracks may occur if notches are cut on a pin angle, shown in the figure. In such cases, use multiple sheets for allocation instead of notches.



5 Adjustment of unevenness by applying the double tacking tape



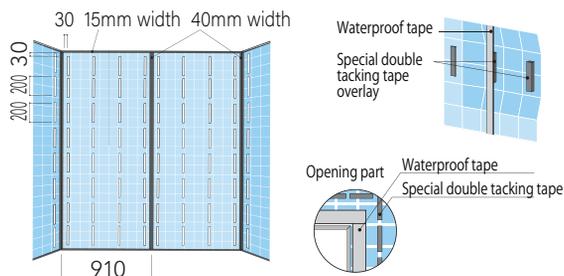
- Ensure **30 mm** of space to apply the adhesive to the end of the attached tile surfaces and then attach the double tacking tape.
- Apply the double tacking tape so each strip is spaced equally in the width direction.

- Adjust unevenness by layering the double tacking tape **1 mm-thick** and **3 mm-thick** tapes.

Example: 4mm unevenness 3mm thick tape + 1mm thick tape

6 Affixing of waterproof tape

- The biggest difference between methods of installation used for shower tooms and those used for general construction method is the combined usage of waterproof tape. Waterproof tape provides protection against water entering from the surface as a result of broken joints.
- The uneven (concave) part is adjusted with double tacking tape. Surround any openings (such as pipes) with waterproof tape.



7 Application of dedicated adhesive

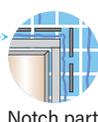
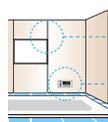
The application pattern shown in the figure is a representation of the construction method deployed for shower rooms. This product is not designed to be installed anywhere other than shower rooms.



- Apply the adhesive so that the height ends up being 3mm or more than the thickness of the double tacking tape.

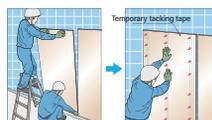
- Be sure to apply adhesive to the outer circumference of the product. The end part may float if it is not applied to the outer circumference or if the amount applied is small.

Coating patterns for areas such as the corner parts



- Be sure to apply adhesive to the area around the notch, where appliances are to be attached, and so on. Cracks will occur more easily if the application amount is small.
- The standard application amount is 4 units of the special adhesive (AICA Eco-Eco Bond SE-8) for a 3x8 size attached tile surface area. Peeling may result if the amount applied is small. (in cases where no unevenness exists).
- Attach and crimp within 10 minutes after applying the adhesive.

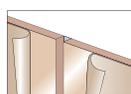
8 Affixing



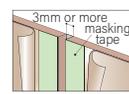
- Take care to ensure that **floating** does not occur in the center and then attach the finishing material.

- **Firmly press down the double tacking tape.**
- The adhesive part may become torn apart if pressed.
- When using an installation-use suction cup, exercise caution as the surface of the product may be subject to coloration due to the rubber component of the suction cup.

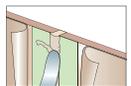
9 Sealing



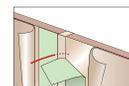
Remove the protective film on the surface, but only for portions where the masking tape is to be applied.



Attach some masking tape and inject the silicone firmly into the back.



Scrape off any excess silicone with a spatula or another such instrument.



Slowly peel the masking tape inward.

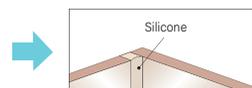
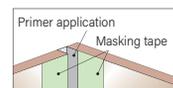
10 Removing curing film

After curing for 2 days, remove the protective film from the surface.

Sealing of the inside corner



The silicone does not adhere well to the surface of CERARL for shower rooms, so please use a primer when applying silicone to the surface of CERARL.

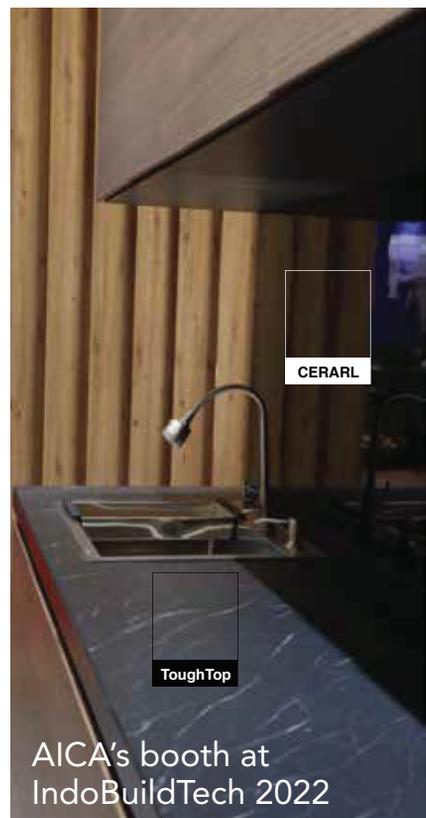
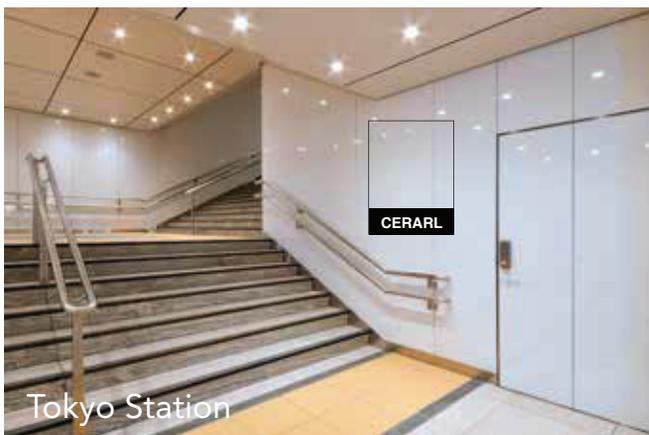
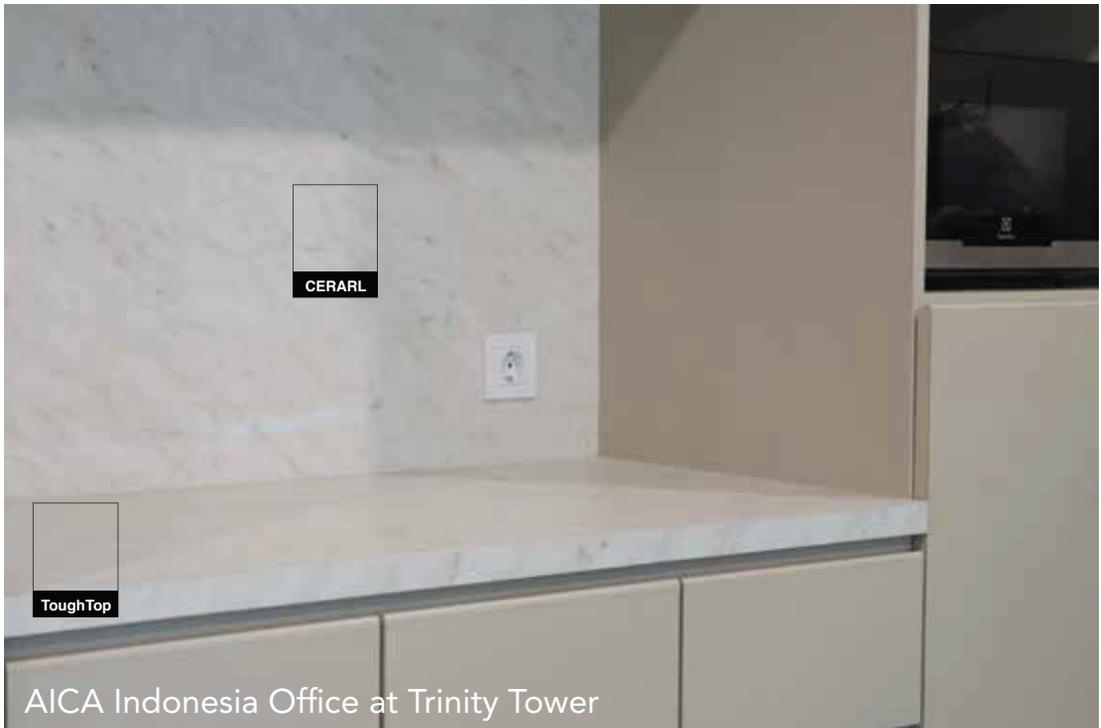


Completion

[Precautions Concerning Installation]

- Put some fine sandpaper on a splint and perform light chamfering of the cut surface.
- In cases involving sealing gaps between panels, also perform light chamfering of surfaces which have not been cut.

CERARL AND TOUGHTOP PROJECT PHOTOS





Nagoya Municipal Subway Chikusa Station



3 Bedroom Apartment at Meikarta



Aica Taiwan Shower Room



Haneda Airport Jal Sakura Lounge



Sakuragawa Regional Medical Center



Sakuragawa Regional Medical Center



Bogor Hospital



Sakuragawa Regional Medical Center



Standard Size = 4'x 8' <-> 1230mm x 2445mm (+5/-10)
 Thickness: 3mm

TOUGHTOP

A new solution for interior top surface from AICA Indonesia, combination of luxury and strength.

ToughTop is top surface material substitute for natural stone. With a lighter weight, good abrasion resistance, and the best choice of pattern, making ToughTop the main choice in table top materials.



SIAA
 ISO22196
 Antibacterial

Inorganic antibacterial agent
 Integrated
 Surface Layer
 ID0123211X0003Y

The SIAA brand mark is borne on products that are under quality control and information disclosure by the guidelines of the Society of Industrial Technology for Antimicrobial Articles based on the results evaluated by ISO22196 method.

BENEFITS



Abrasion Resistant

Hard melamine surface with abrasion resistance.



Anti Bacteria

Maintains cleanliness by inhibiting growth of bacteria.



Durable and impact resistant

Strong melamine laminate board protects the surface from impact and splintering.



Heat Resistant

Won't discolor if splashed with hot water.



Easy to maintain

Resistant to set-in stains, and easy to wipe clean.



Simple Installation

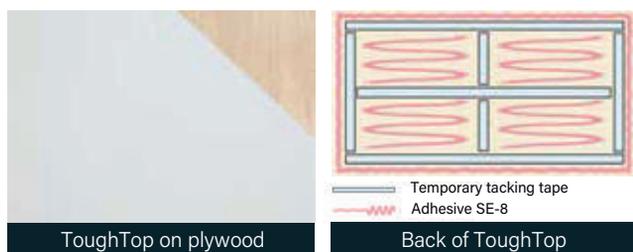
Easy to cut smoothly and cleanly with circular saw.

Table of physical properties of ToughTop

Item	Standard	Tough Top	Marble	Granite	Ceramic	Solid Surface	Remark
Thickness	-	3 mm	16 mm	20 mm	10 mm	12 mm	-
Weight/Area	-	4.16 Kg/m ²	46.71 Kg/m ²	59.16 Kg/m ²	20 Kg/m ²	22.39 Kg/m ²	-
Heat Resistance	JIS K 6902 Resistance to Hot Water	Grade 5 No Change of Surface	Spill a small amount of boiling water on the test specimen, place a flat-bottomed pan containing boiling water on the test piece and let it stand for 20 minutes.				
	JIS K 6902 Resistance to Heat	Grade 5 No Change of Surface	Place a flat-bottomed pan containing 180°C vegetable oil on the test specimen and let it stand for 20 minutes				
	In-house Test Hot Ingot	Grade 5 No Change of Surface	Grade 1 After 5-10 min, Broken/damaged at temp>200 C Place the hot plate on a surface with a temperature of up to 200°C for 10 minutes and then check the changes/cracks on the surface				
Abrasion Resistance	JIS K 6902 Resistance to Abrasion	0.08 g	0.38 g	0.10 g	0.43 g	0.73 g	Using the Taber abraser with a load of 500 gr and sandpaper #180 for 500 cycles, then check the final weight against the initial weight
Impact Resistance	In-house Test	80 cm	40 cm	40 cm	10 cm	50 cm	Drop the ball on the surface of the specimen with a weight: 532.8 g and diameter: 50.78 mm at a certain height and then check for cracks on the surface

*The data in the table are not guaranteed values but reference values

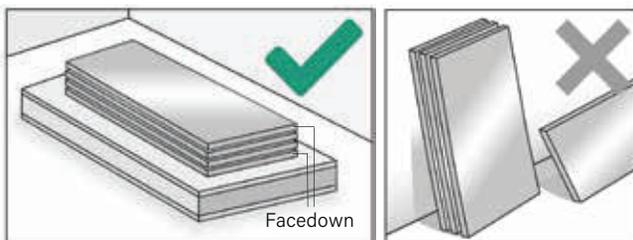
Installation



Accessories

ToughTop Dedicated Adhesive
AICA Eco-Eco Bond Modified Silicone Resin SE-8

1-2 tube / 4' x 8' size
(1 sheet ToughTop)
Standard possible application amount: 16 m / tube



Double tape from third parties product

Double Coated Foam Tape

Recommended Specification:
Thickness : 1mm
Width : 20-24 mm



- Please stack flat.
- Please avoid to keep it outside, direct sunlight and high humidity.
- When you store ToughTop in a pile, please put top ToughTop and bottom ToughTop with masking film facedown.